CLAIMS

What is claimed is:

1. A method of

embedding a watermark in a data set,

processing the data using some parameter set,

determining presence of data corruption of the data set with respect to an original data set by measuring the amount of a recovered watermark, and

adjusting the parameter set for the data processing based on the presence of data corruption.

2. The method of claim 1, further comprising processing the data set by transform encoding the data set.

3. The method of claim 1, further comprising processing the data set by packetizing and transmitting the data set.

4. The method of claim 1, further comprising identifying image frame errors in packet transmitted audiovisual data sets.

5. The method of claim 1, wherein adjusting the parameter set further comprises modifying network bandwidth to compensate for data corruption of the data set.

6. The method of claim 1, wherein determining presence of data corruption further comprises quantitatively measuring spatial extent of corruption of image data sets.

7. The method of claim 1, wherein determining presence of data corruption further comprises quantitatively measuring temporal duration of corruption of data sets.

8. An article comprising a computer readable medium to store computer executable instructions, the instructions defined to cause a computer to

embed a watermark in a data set,

process the data using some parameter set,

determine presence of data corruption in the data set with respect to an original data set by measuring the amount of a recovered watermark, and

adjust the parameter set for the data processing based on the presence of data corruption.

9. The article comprising a computer readable medium to store computer executable instructions of claim 8, wherein the instructions further cause a computer to process the data set by transform encoding the data set.

10. The article comprising a computer readable medium to store computer executable instructions of claim 8, wherein the instructions further cause a computer to process the data set by packetizing and transmitting the data set.

11. The article comprising a computer readable medium to store computer executable instructions of claim 8, wherein the instructions further cause a computer to identify image frame errors in packet transmitted audiovisual data sets.

12. The article comprising a computer readable medium to store computer executable instructions of claim 8, wherein the instructions further cause a computer to adjust the parameter set by modifying network bandwidth to compensate for data corruption of the data set.

13. The article comprising a computer readable medium to store computer executable instructions of claim 8, wherein the instructions further cause a computer to determine presence of data corruption by quantitatively measuring spatial extent of corruption of image data sets.

14. The article comprising a computer readable medium to store computer executable instructions of claim 8, wherein the instructions further cause a computer to determine presence of data corruption by quantitatively measuring temporal duration of corruption of data sets.

15. A data degradation measurement system comprising

a watermarking module to embed a recoverable watermark in a data set,

a processing module for modifying the data using some parameter set, and

a watermark recovery module to determine presence of data corruption of the data set with respect to an original data set by measuring the amount of a recovered watermark.

16. The method of claim 15, wherein the processing module further comprises a transform encoding processor to process the data set by transform encoding the data set.

17. The method of claim 15, wherein the processing module further comprises a packetizer to process the data set by packetizing and transmit the data set.

18. The method of claim 15, wherein the watermark recovery module further detects image frame errors in packet transmitted audiovisual data sets.

19. The method of claim 15, wherein the processing module adjusts the parameter set by modifying network bandwidth to compensate for data corruption of the data set.

20. The method of claim 15, wherein the watermark recovery module quantitatively measures spatial extent of corruption of image data sets.

21. The method of claim 15, wherein the watermark recovery module quantitatively measures temporal duration of corruption of data sets.

22. The method of claim 15, further comprising a back channel transmitter to communicate information to the processing module to adjust the parameter set for the data processing based on the presence of data corruption detected by the watermark recovery module.

23. A method of

receiving an embedded watermark in a data set,

determining quality of the received data set with respect to an original data set by measuring the amount of a recovered watermark, and

adjusting determined billing value of the received data set based on the determined quality.

24. The method of claim 23, wherein adjusted billing value is partitioned between a content provider and a service provider.

25. The method of claim 23, wherein the data set is provided by a content encoder, and wherein the determined quality of the received data set is transmitted to the content encoder to permit encoding adjustments.

26. The method of claim 23, wherein the data set is transmitted by a service provider, and wherein the determined quality of the received data set is transmitted to the service provider to permit quality of service adjustments.

27. The method of claim 23, wherein the determined quality of the received data set is used to drop data frames from playback having less than a predetermined quality level.

28. A method of

embedding a watermark in a data set to allow reception-side determination of quality of the data set with respect to an original data set by measuring the amount of a recovered watermark,

transmitting the data set having the embedded watermark, and

accepting information about determined quality of the transmitted data set and adjusting at least one of a data encoding parameter or transmission parameter in response for later transmitted data.

29. A method of

embedding a watermark in an original data set,

transmitting the data set having the embedded watermark over a packet based network to a receiver,

determining quality of the received data set with respect to the original data set by measuring the amount of a recovered watermark, and

adjusting determined billing value of the received data set based on the determined quality with respect to the original data set.